AMENDMENTS TO THE CLAIMS

Listing of claims:

1. - 12. (Canceled)

13. (Currently Amended) A method for implementing traversal through a Network Address Translation (NAT) server or a firewall (FW) located in a first network, the method being implemented in a proxy server located in a second network outside the NAT server or FW, the method comprising:

recording a first address and port in an IP header of a signaling message of a call received from the NAT server or FW located in the first network;

modifying the first address and port into a second address and port assigned for the call in the second network;

analyzing the information in the signaling message;

recording ~~the~~ an address and port of a call signaling in the signaling message and ~~the~~ an address and port of Real-time Transfer Protocol (RTP) and Real-time Transfer Control Protocol (RTCP) of a media stream in the signaling message;

modifying the address and port of the call signaling into the address and port of the call signaling of the second network assigned for the call;

modifying the address and port of RTP and RTCP into the address and port of the second network assigned for the media stream;

delivering the signaling message to a processing device of packet voice signaling or a service processing device in the second network;

modifying a third address and port in the IP header of a response signaling message from the processing device into the first address and port;

analyzing the information in the response signaling message;

modifying ~~the~~ an address and port of a response signaling in the response signaling message into the recorded address and port of the call signaling in the signaling message;

modifying the a RTP and RTCP address and port of a media stream in the response signaling message into the recorded RTP and RTCP address and port of the media stream in the signaling message; and

sending the response signaling message to the NAT server or FW in the first network.

14. (Previously Presented) The method according to claim 13, wherein:

the first address and port in the IP header of the signaling message is an address and port of a public network assigned by the NAT server or FW; and

before sending the signaling message, the NAT server or FW:

modifies a source address and port in the IP header of the signaling message into the address and port of the public network, and

records a mapping relationship between the source address and port and the address and port of the public network.

15. (Previously Presented) The method according to claim 13, wherein the first network is a private network, and the second network is a public network.

16. (Previously Presented) The method according to claim 13, further comprising:

initiating, by the proxy server, messages periodically to a packet user terminal in the first network, refreshing the mapping relationship recorded on the NAT server or FW.

17. (Previously Presented) The method according to claim 13, wherein the processing device of packet voice signaling or service processing device is a soft-switching device or a voice over IP gatekeeper device.

18. (Currently Amended) A system for implementing traversal through a Network Address Translation (NAT) server or a firewall (FW) located in a first network, comprising:

a packet user terminal located in the first network, for initiating and receiving services;

the NAT server or FW, for providing services of accessing a second network for the packet user terminal and forwarding messages from and to the packet user terminal;

a proxy server located in the second network outside the NAT server or FW, the proxy server being configured for:

receiving a signaling message of a call from the NAT server or FW;

recording a first address and port in an IP header of the signaling message;

modifying the first address and port into a second address and port assigned for the call in the second network;

analyzing the information in the signaling message, recording ~~the~~ an address and port of a call signaling in the signaling message as well as ~~the~~ an address and port of a media stream thereof;

modifying the address and port of the call signaling into the address and port in the second network assigned for the call, and modifying the address and port of the media steam into the address and port of the second network assigned for the media stream; and

receiving a response signaling message sent to the packet user terminal;

modifying a third address and port in the IP header of the response signaling message into the first address and port;

analyzing the information in the response signaling message;

modifying ~~the~~ an address and port of a response signaling in the response signaling message into the recorded address and port of the call signaling;

modifying ~~the~~ an address and port of a media stream in the response signaling message into the recorded address and port of the media stream; and

delivering the response signaling message to the NAT server or FW; and

a soft-switching device, for providing integrated services and call control, forwarding to the proxy server the response signaling message sent to the packet user terminal when the signaling message is received.

19. (Previously Presented) The system according to claim 18, wherein the packet user terminal is a user terminal performing audio and video communications by means of H.323 protocol, Session Initiation Protocol (SIP), Media Gateway Control Protocol (MGCP), or H.248 protocol.

20. (Previously Presented) The system according to claim 18, wherein the proxy server is used for charging based on flow volumes.

21. (Previously Presented) The system according to claim 18, wherein the proxy server is used for conducting access control of users and bandwidth management, and encrypting Quality of Service labels of media streams, Virtual Private Network labels and information.

22. (Previously Presented) The system according to claim 18, wherein the proxy server is used for:

configuring multiple pairs of addresses of the first network and the second network, and

implementing traversal through multiple NAT servers or FWs.

23. (Previously Presented) The system according to claim 18, wherein the proxy server is adapted to:

learn, after the media stream sent from the terminal arrives at the proxy server, the information of the address/port dynamically assigned on the NAT server or FW from a first-packet of the media stream;

update session list items or list items of address translating relation of media streams; and

establish a complete session list of the media stream.